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YAMAMOTO KOICHI
KAWAI HIROSHI****(54) SOLUBLE GLASS COMPOSITION HAVING
ANTI-BACTERIAL ACTIVITY**

(57) Abstract:

PURPOSE: To obtain a soluble glass composition containing zinc, which shows anti-bacterial activity, is impregnated or stuck to resin, fiber, paper or the like, and having anti-bacterial activity by blending ZnO, B₂O₃ and Na₂O with limited components.

CONSTITUTION: The soluble glass composition is composed of 15-50% ZnO, 40-80% B₂O₃ and 5-30% Na₂O by mol%. Furthermore, the soluble glass preferably contains 5-30% Na₂O+K₂O (K₂O is ≤20%), ≤20% at

least one or more kind of CaO and MgO, ≤20% SiO₃ and ≤20% Al₂O₃ and is capable of showing excellent anti-bacterial activity for a long period by having the composition. The soluble glass is used widely for towels, sport goods, filters for air conditioner, daily needs, brushes, tooth brushes or the like by kneading into a base material such as a resin or a fiber. In either case, since zinc ion is slowly eluted from the powder of the soluble glass kneaded into the fiber at a certain rate at the time of being in contact with water, excellent anti-bacterial function is shown.

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